

Fig. 1.

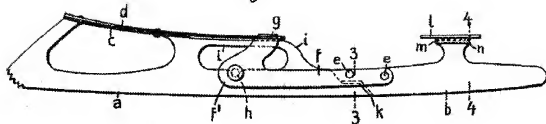


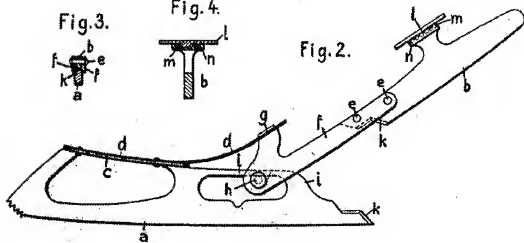
Fig. 3.



Fig. 4.



Fig. 2.



"Certified to be the drawings referred to in the  
specification hereunto annexed."

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In the ordinary skate, with an undivided blade, the foot is held firmly clasped in one position, so that the toe joint is kept inactive and cannot be used in skating. The result of this is a premature fatiguing of the body, as the remaining joints are correspondingly overstrained. It has been tried to overcome this disadvantage by designing a skate having a jointed divided blade. Hereby, however, the skate itself contains the joint, which, therefore, lies under the foot and is dependant upon the position of this joint, whereas the actual joint is contained in the foot itself. Consequently, the foot cannot follow the natural movements of the toe joint, but is compelled to follow the movements of the joint in the skate. The strain connected therewith does not result in any reduction of premature fatigue.

The object of the present invention is to provide means for giving the foot the same freedom of movement in skating as when walking, so that the toe joint is also brought into activity and swings on its natural axis. To attain this, the blade of the skate is also made of two parts, the rear section, however, being connected to the front section by means of a flat spring which is fastened to the sole plate. The connection of the rear section of the blade with the flat spring is made with the aid of guiding bars which engage with the front section like a fork, whereby a cramping of the two parts of the skate blade is prevented. The flat spring which constitutes the connection allows a

free movement of the foot in the toe joint. Both parts of the blade abut in an overlapped joint and are preferably, made to engage in a dovetailed manner. In order to attain a secure guidance of the rear section on the front section of the blade, the guiding bars are bent in a knee-shaped manner, and are connected at the knee, so that they, together with this connection, form a stop and limit the alternating swinging movements of the two parts of the blade. This limit of movement is, furthermore, attained by means of an overbridged aperture between the guiding bars in the front section of the blade.

The invention is illustrated diagrammatically and by way of example in the accompanying drawing, in which figure 1 is a side elevation of the skate in a flat position, figure 2 also shows a side elevation with the rear section bent upward, figure 3 is a cross section in the line 3-3, and figure 4 is a cross section in the line 4-4 of figure 1.

The skate is composed of a blade divided into two parts a and b, the front part a carrying the sole plate c, which, as seen from the side, reaches only to the toe joint of the foot; it is, therefore, in comparison with other designs, comparatively shorter. A flat spring d is connected with the sole plate c. Two guiding bars f are fastened to the rear part b of the blade by means of the rivets e. The guiding rails f are bent knee-shaped toward the front part at f' and connected, for instance, by means of a rivet h, or bent out of one piece, or welded. At g the guiding bars f are connected

with the rear end of the flat spring d, which, therefore is free to move upwardly and to follow the natural movement of the foot, so that the joint of the skate is transferred to the foot.

Both parts a and b of the blade engage at k in an overlapped joint, the abutting ends being dovetailed in order to attain a secure engagement. The front part a of the blade is provided with an overbridged aperture i under the freely movable part of the flat spring d, which acts as a stop for the flat spring d on the one hand, that is, when this spring is in its resting position, and on the other hand it serves the purpose of a stop for the guiding rails f, so that they cannot come out of engagement with the front part of the blade. Both parts of the blade can be bent until they reach an angle of about  $60^{\circ}$ .

The heel plate l is preferably made so as to slide lengthwise in guides in any known manner on the branch b, for instance as shown, by provided dovetailed guides m n, so that it can follow the movements of the foot, respectively the bending in the toe joint. Thereby the actual swinging axis is maintained and the foot does not suffer from undesirable strains.

I claim:

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1. An ice skate, comprising, in combination, a front blade part having a sole plate, a flat spring fastened to said sole plate, a rear blade part with bars fastened thereto, adapted to guide said rear blade part on said front blade part, a firm connection between said

guiding bars and said flat spring adapted to allow free movement of the toe joint of a foot, substantially as set forth.

2. An ice skate, comprising, in combination, a front blade part having a sole plate, a flat spring fastened to said sole plate, a rear blade part with bars fastened thereto adapted to guide said rear blade part on said front blade part, a firm connection between said guiding rails and said flat spring adapted to allow free movement of the toe joint of a foot, an overlapped joint between both said blade parts adapted to engage in a dovetail at the abutment of said joint, substantially as set forth.

3. An ice skate, comprising, in combination, a front blade part having a sole plate, a flat spring fastened to said sole plate, a rear blade part with bars fastened thereto adapted to guide said rear blade part on said front blade part, a firm connection between said guiding rails and said flat spring adapted to allow free movement of the toe joint of a foot, an overlapped joint between both said blade parts adapted to engage in a dovetail at the abutment of said joint, said guiding bars being bent knee-shaped beyond the point of connection with said flat spring and connected together at the knee, substantially as set forth.

4. An ice skate, comprising, in combination, a front blade part having a sole plate, a flat spring fastened to said sole plate, a rear blade part with bars fastened thereto adapted to guide said rear blade part on said front blade part, a firm connection between said guiding bars and said flat spring adapted to allow

free movement of the toe joint of a foot, an overlapped joint between both said blade parts adapted to engage in a dovetail at the abutment of said joint, said guiding bars being bent knee-shaped beyond the point of connection with said flat spring and connected together at the knee, an overbridged aperture in said front blade part adapted to act as a stop for said flat spring and for said guiding bars, substantially as set forth.

5. An ice skate, comprising, in combination, a front blade part having a sole plate, a flat spring fastened to said sole plate, a rear blade part with bars fastened thereto adapted to guide said rear blade part on said front blade part, a firm connection between said guiding bars and said flat spring adapted to allow free movement of the toe joint of a foot, an overlapped joint between both said blade parts adapted to engage in a dovetail at the abutment of said joint, said guiding bars being bent knee-shaped beyond the point of connection with said flat spring and connected together at the knee, an overbridged aperture in said front blade part adapted to act as a stop for said flat spring and for said guiding bars, said sole plate extending only from the toe point to the toe joint of a foot, substantially as set forth.

6. An ice skate, comprising, in combination, a front blade part having a sole plate, a flat spring fastened to said sole plate, a rear blade part with bars fastened thereto adapted to guide said rear blade part in said front blade part, a firm connection between said guiding bars and said flat spring adapted

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to allow free movement of the toe joint of a foot, an overlapped joint between both said blade parts adapted to engage in a dovetail at the abutment of said joint, said guiding bars being bent knee-shaped beyond the point of connection with said flat spring and connected together at the knee, an overbridged aperture in said front blade part adapted to act as a stop for said flat spring and for said guiding bars, said sole plate extending only from the toe point to the toe joint of a foot and a heel plate adapted to slide lengthwise in guiding members, substantially as described.